

An Inaugural Dissertation,
On the
Pathology of Jaundice,
For

Read March 9. 1829

The Degree of
Doctor of Medicine,
In the

University of Pennsylvania;
By

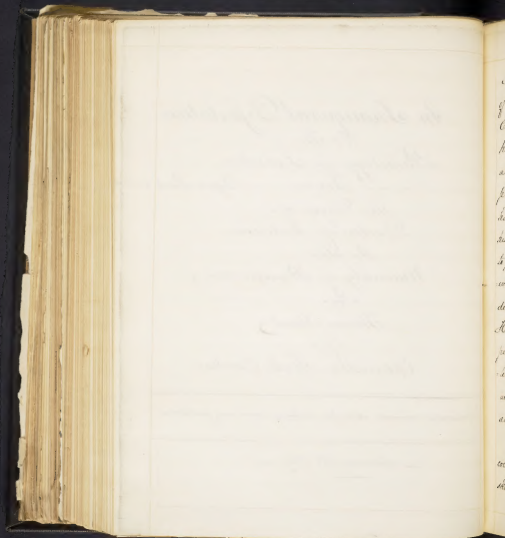
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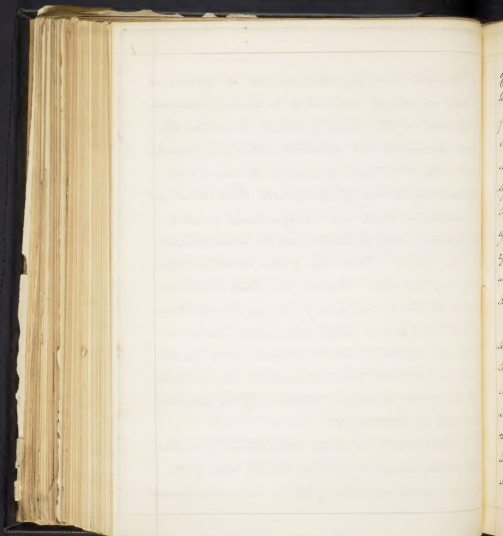
"*Primum commenta Aet, diu, Natura confirmat, judicium.*"

— January, 18th 1829 —



Physiologists have long contended, that the temperaments of man are strongly indicated by his external appearance. Confirmed in this opinion, by common observation, they have ascertained and established certain fixed principles and rules, to determine, accurately, the moral and physical dispositions of individuals. Each individual has distinctive marks and idiosyncrasies, by which, his propensities may be known, and his mind directed to proper objects. A knowledge of these, constitutes a knowledge of mankind. Whatever, then, tends to alter or destroy the temperaments, is of the highest importance. Hence, ^{the disease} which subvert organic action, impair functions, and produce an alteration in external appearance, while they interest every philanthropic mind, demand the more particular attention of the physiological physician. Of this description and class is Jaundice.

Jaundice is a disease characterised by a yellow colour which pervades the whole system. The colour of the skin and tunica conjunctiva of the eye are certain diagnostics.



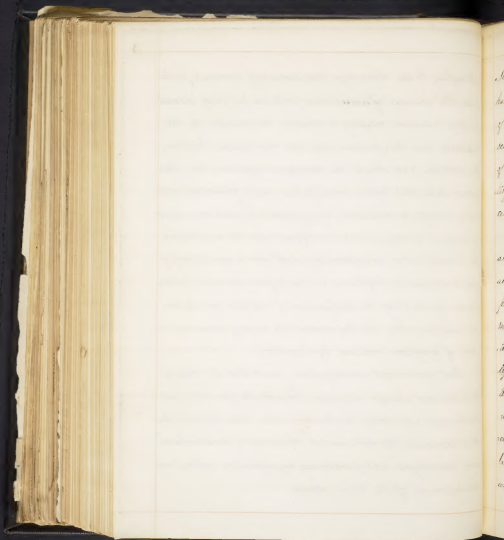
of this complaint. Arising from mans organization and his liability to structural derangement, we accordingly find, that from the earliest times it has afflicted the human race; and its symptoms have been described by old ^{men} with their accustomed accuracy. To us, their pathological and physiological views, have been transmitted unimpaired. From the dark ages, when the light of science, obscured by monkish ignorance and superstition, faintly glimmered in the view of the most zealous votaries, down to the present period, when medicine advances with rapid and gigantic strides, the same theories of Jaundice have been uniformly adopted.

Hippocrates, Vol. II De morbis, says, that the bile, inspissated during summer, is rendered dark and consistent in those persons, whose livers and gall-bladders are deranged in secretion by indigestion in eating and drinking, speaking of the effect of heat on the system. — To be Cholic & not jaundice is the Scurvy and this adds & more in Dyspepsia & Enteritis, and a little lower down, & it draws out no humors & draws it out & engenders the Spleen & Nephritis. Galienus, Lib. 14.



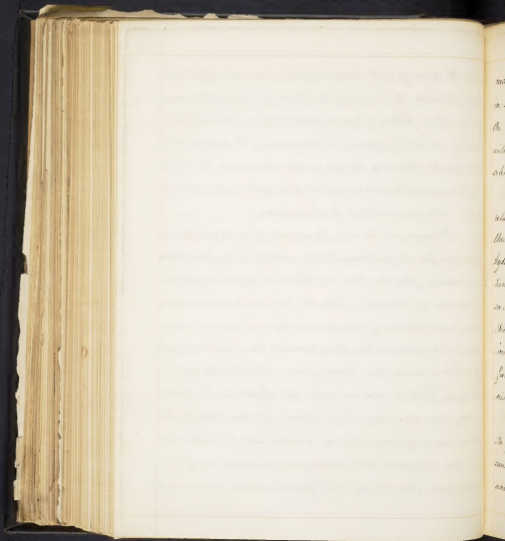
According to the Coan sage and succeeding humoral pathologists, this increase of acrimonious colluvies, not being induced to supply a secretion necessary to digestion, accumulates in the biliary ducts, and thus produces dilatation and disease. To relieve this dilatation and obviate the attendant symptoms, the physicians state, that nature receiving her usual operations indicates a process, denominated "regurgitation", by which the unhealthy secretion is thrown back, and forced into the circulation. Thus mixing and incorporating itself with the general mass of blood, it exercises an influence in the performance of its functions assigned to this fluid, viz. the functions of nutrition, exhalation, and secretion. Thus did they unravel the mystery attending the train of symptoms induced by Jaundice.

But anatomical investigations proved that the biliary ducts were not always enlarged. Thus, driven from this first position, but unwilling to abandon their primary view they then advanced the doctrines of "obstruction", "constriction", and "paralysis", all producing "regurgitation" without an enlargement of the biliary ducts.



Since the discovery of the abdominal cysts, some authors of distinction have attributed the presence of the bile in the blood, to the agency of these cysts. Others of equal respectability were, that the biliary secretion not being performed, in consequence of the disarrangement of the hepatic apparatus, the bile is still retained in the circulating fluid, and, thus, acting as part of it, effects in the economy certain changes exhibited by Jaundice.

Morgagni, in his work *De morbis* Chap. 37, elaborately and ably discusses the question—Whether, calculi in the *pancreas* and *venula fellea* can form an obstruction sufficient for the production of Jaundice. From the post mortem examinations made and recorded, by himself and the most eminent anatomists who preceded him, he determines these points negatively. He concludes thus—Even when a calculus obstructed the cystic, ^{and} *Galeati*, did not only not obstruct a Jaundice, which alone was found to be absent, at that time by Boerhaave, and was proved to be so, in many cases by Pechlinus, but even remarked that nothing was the consequence of it which could show the cyst to be affected: and the same remarks



nests were made by rats, mice, and other creatures
in two holes on the sides of the central duct in
the direction of the ducts on which it was possible to have contact
with common and the symptoms of a patient. Since the
situation of the

It is seen in an organ, in which the duct is enlarged in size more
than one third it had, simultaneously, a great collection of
hypothetical tumors in its central part. Notwithstanding this pa-
tient labored under great pain in this organ for many years.
In some instances, many serious cases recorded in the
history, and others of the same kind, conclude an unrefragable injury of
many organs of the body, that the ducts are not
from obstruction in any of the ducts, except the ducts common
to the ducts.

It is a common observation of comparative anatomists that
in the formation of the ducts of the liver and of the ducts of the
pancreas, that the formation of these ducts implies
and diminishes the secretion of bile must be admitted by all



familiar with the writings of Paracelsus. These effects give
 rise an imbalanced action in being secretion. A decrease
 out of this secretion must therefore affect the vessels, either
 by being, diminishing, or increasing that secretion. But if se-
 cretion does not decrease it is clear, from the healthy condition
 of these animals. It then either increases, or diminishes it, &
 operation superinduces leprosy, and leprosy diminishes when
 the secretion is thereby diminished. But Scandria does not
 arise. Scandria, then, cannot result from operation of the
 veni vitium, or diminished secretion.

This argument will apply to cases of supposed Paralysis
 of the veni vitium. Since, these effects, being thus affected,
 lose their relation to the bile, and become like increased labor
 infused. Again, this Paralysis of the veni vitium cannot
 be a primary cause of Scandria. But it is argued, by some,
 that obstruction or paralysis of the of the extreme extremities
 of the Vena portarum prevents secretion: the bile, being thus
 retained in the circulation, enters into all parts of the body and
 constitutes Scandria. This theory is refuted on the fact, that



The secreted fluids have never been discovered in the blood.

* Thus we only know in the animal economy, after the secretory ^{organs} have formed and conveyed them into their organic receptacles. Hence, in a case related by Dr. Ross ^{in his} *Medical Essays* Vol. 1st a third person, seemed to digest its food, had regular stools, and yet had no gall bladder or duct leading to the duodenum. This patient was not jaundiced. Paralysis, or obstruction, of the capillaries or extreme vessels of the Vena portarum, cannot then cause Jaundice. Thus the beautiful metaphysical superstructure of Darwin based upon the assertion that "another cause of this disease is the paralysis of the secretory organs of the hepatic apparatus," has been destroyed by arguments and shoddy facts; and Cullen's ingenious but illogical conclusions, deduced from the erroneous principle, that Jaundice "depends upon quantity of bile present in the mass of blood; and which thence, upon the surface, gives its own peculiar colour to the skin and eyes" are clearly overthrown.

Thus we think, we have proved that Jaundice cannot be produced by obstruction in, and paralysis of, the portal vein.



a capitation of the bile apparatus from the same facts, and reasoning by analogy we may conclude, that the jaundice does not originate in the construction of these organs.

Further, but biliary calculi confined to the Venuia-fellæ primarily cause jaundice, not so even Hæmaturia. An exact but strong is, however, an accurate post mortem examination. It will therefore consider these examinations in relation to the point under discussion. Hunter, in his *Opuscula Pathologica*, says, that biliary calculi are more frequently met with than urætic. His assertion has been confirmed by all succeeding anatomists. Valæsius examined four and Morgagni seventeen bodies. In all these the gall bladder contained calculi. Not one of them was afflicted with jaundice. In one defecting case we will meet similar instances. This is ample evidence, that calculi in the venia-fellæ do not primarily cause jaundice. For if they produced the disease primarily, no case of biliary calculi could occur without an attendant jaundice. Because this affection would then be originated by the irritation of a foreign body. What then is icterus, which is an unnatural production and



foreign body, is confined in the gall bladder it must prove irritation and cause jaundice. But the effect is widely different, evident in the Vesicular Fells cannot, then, himmantly cause jaundice.

Again we consider the much admired theory of absorption, the word on the translocation of the bile into the blood vessels. Dr Caldwell in a note on this subject, in Cabanis' *rest Sens*, clearly designates the flagrant absurdity, and the physiological impossibility, of such an occurrence in the animal economy.

Speaking of Gallon, he says, "It betrays in our author a most glaring deficiency of physiological knowledge, to assert, that the bile may regurgitate in its ducts, and pass from them into the ascending vena cava." On grounds just as tenable, might he have asserted, that the blood may regurgitate from the right ventricle of the heart and pass by an inverted movement, to the left, as to have declared his belief, in this retrograde march of the bile. "In either case an equal degree of violence must be done to the order of nature."

We will, now, consider the theory of absorption, which can be stated in a few words. The liver takes on an abnormal action - its secretion is affected - bile accumulates, in the biliary ducts



and the viscous fillets, form obstruction in the common duct. The functional derangements usually attendant on the vis medicatrix naturae & independent of inflammation however exhibit their peculiar action, and arrest the progress of structural disorganization. To effect these objects the absorbents remain inactive, enlarge, and their pulsations commence an operation unusually vigorous. The biliary secretion is then carried by numerous branches of the vessels into the venous duct - this organ and discharges it into the venous system. Thus, it becomes a constituent part of the circulating fluid, and preserves the phenomena exhibited in jaundice, which may then be defined, an effect of the vis medicatrix naturae to divert the system of an accumulated and irritative secretion.

If the accumulation of bile in the biliary ducts and gall bladder is the primary cause of its absorption into the system deranged jaundice, then this disease must arise from some previous relation between the bile and the living membranes of the ducts and gall bladder in its immediate contact. This relation must be generated by biliary accumulation. It is



being assimilated into the system, the entire cause of absorption exists, and Generation must ensue, which is not however the result. In other words, the cause is not sufficient to produce the effect. Often this may be accounted for the accumulation, secreted as detritus, the particles left it acted on the system, but causing Generation? The particles as such is in fact a separation of the cause, causing the primary cause of *Stasis*.

If the Venous the life enters the circulation, why does it not produce more violent symptoms? In many cases, the disease is not the absolute result of the disease. The life pervades the system so generally, as to be able to sustain it with a yellowish tinge. Such an effort cannot result from the presence of a small quantity of life in the blood. In the introduction of this substance, the most serious consequences, such as vomiting, languor, delirium, convulsions, and even death.

That the life can circulate with the heart after absorbing has introduced into its system, has been observed by Rich-



to mind. *Harvey* Vol 3, page 289. In perhaps my ^{own} experiments
however in ^{no instance} observed, that the introduction of
bile into the venous system of ^{any} animal was productive of the
-ms. of ^{the} ^{venous} system being in the presence of bile in the blood
there was not that universal ^{the} ^{infection}? This is convincing
evidence of the excessive ^{the} ^{excess} of the ^{venous} ^{system} ^{being} ⁱⁿ ^{the} ^{presence} ^{of} ^{bile} ⁱⁿ ^{the} ^{blood}
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the ^{venous} ^{system} ^{being} ⁱⁿ ^{the} ^{presence} ^{of} ^{bile} ⁱⁿ ^{the} ^{blood}

However, if the bile be absorbed and enter the blood, its pre-
sence in this fluid can be easily detected. And chemical tests
in our time have most distinctly led to its detection. That the
conclusive argument against this theory is that a small quantity
of bile enters the blood, the red presents coagulability, but in the
most severe and accumulated cases of jaundice, we find says
W. Hunter, the blood capable of coagulating strongly. Now the co-
agulation of solution, coagulation, and coagulation, should be a
process dependent on the presence of a quantity of bile, but that
to prevent the coagulation, and thus to be coagulated.





dissection of bodies of lesions. Inundated, in whom, no other
action had taken place in the appearance of any of the virus.
Notwithstanding this, ^{it is} still obstinately maintained, that
it is sufficient to ~~be~~ ^{be} ~~in~~ ⁱⁿ ~~the~~ ^{the} ~~vicinity~~ ^{vicinity} ~~of~~ ^{of} ~~the~~ ^{the} ~~organ~~ ^{organ},
changes the appearance of every organ. Is this reason? Or
is it the devoted attachment of blind credulity to the dicta
of adroit and learned humbuggers? This love of medical
science is crumbled into dust the high-saved pillars of authority,
and cannot be ~~in~~ ⁱⁿ ~~the~~ ^{the} ~~vicinity~~ ^{vicinity} ~~of~~ ^{of} ~~the~~ ^{the} ~~organ~~ ^{organ},
step we take in the examination of the accused decisions of
the organs, and progress of the disease under consideration, multi-
plies themselves, disorientating reason, exhausted
from a want of facts, where her guidance, and we are left to grope
about in intellectual darkness.

Since the publication of Dr Johnson's notes, on the Liver and Spleen climates, medical men have bestowed particular attention on what he so happily styled the extensive hepatic sympathy. That this association of action or consent of parts exists, and is maintained between the





it changes the condition of the conditions in which it is concerned, and
 has rather to be said to be independent of the nervous system
 than to be its subject.

By the action of the brain and nerves we have evidence
 that in various conditions, calculations are apparent in
 nature, in which reason is not for, and that emotions and other
 action, of which a warning of the brain produces an effect is, how-
 ever, as instantaneously, to do the whole human nature, fully
 developed and physiologically explained. Not less easy of explana-
 tion is the reduction of ideas by violent emotion of the passions
 and emotions of the mind, in various conditions, more intense, the
 same. To show that the functions of any organ may be perfectly
 performed, it is necessary that the rules of animal and vegetative
 life, of civil and moral actions, shall receive mutual relations to
 each other, and be determined in harmonious union and
 action, that beautiful order and wise arrangement, which,
 however, and govern the animal economy. Hence, when the
 mind is affected, this healthy and rational play of the functions
 is disturbed, nervous irritation is its consequence, and confusion.



results.

When we consider the sympathetic actions of which we have spoken, as the sole, primary means, by which Scurvy can be induced, the difficulties, insurmountable by the acknowledged means, are obviated and overcome, and the multiple appearances always attending this disease, though to other doctrines insuperable as proximate or efficient causes of its production, are, in accordance with our views, pathologically proved (remote or secondary, invariably). Thus a Catarrh in the Venula follicis can be the remote cause of Scurvy, if by its irritation of the mucous coat of this viscus, a local impression be made and extended to the Ductus Communis, and this duct assume that excited action which is necessary to promote the copious affusion of the capillaries. That this supposes, variously, discharge the secretory offices of the biliary ducts and gall bladder, clearly appears from the colour and composition of the fluids eliminated from the catarrhus rehalants, and defecating apparatus during a fit of Scurvy.

We deem it unnecessary to pursue this enquiry any farther. Our theory is plain. If we have failed in establishing it we



numberly tend, that we have, convincingly, pointed out the physiological
errors in the preceding decisions.

